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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Paper No. 20

Application Number: 08/826,744
Filing Date: 4/7/97
Appellant(s): Iwasaki

Charles L. Hamilton
For Appellant

EXAMINER'S ANSWER

This is in response to appellant's brief on appeal filed 5/16/00.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Invention

The summary of invention contained in the brief is correct.

(6) Issues

The appellant's statement of the issues in the brief is correct.

(7) Grouping of Claims

Appellant's brief includes a statement that claims 2,8-9&12; 3&13; 4-5&14-15; and 6&16 do not stand or fall together and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8).

(8) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

The following is a listing of the prior art of record relied upon in the rejection of claims under appeal.

5,790,177	Kassatly	4-1998
5,754,730	Windrem et al	5-1998
4,947,271	Nakayama et al	8-1990
5,841,941	Morimoto et al	11-1998

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1,7,10,11,17&18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kassatly (US 5,790,177).

Regarding claim 1, Kassatly discloses in Fig.1,2,3&43 a digital video tape recorder apparatus and method in which video channels are simultaneously recorded in a recording mode, comprising:

a) the claimed receiving means for receiving a data stream in which a plurality of audio data and video data or one of the same are multiplexed in a predetermined order(see the reception process 14 for receiving and processing signals received from the transmitter 12; col.18, line 66 to col.19, line 35);

b) the claimed demultiplexing means(see demultiplexer 30; col.19, line 36 to col.20, line 34); and

c) the claimed plurality of recording/reproducing means(see channel I to channel n storage means 35 to 39, respectively; col.19, lines 49-55).

The current embodiment of Kassatly fails to show the claimed multiplexing means for multiplexing the reproduced each one in the predetermined order and generating an output data stream. In another embodiment Kassatly discloses wherein when a user wishes to combine the signals in two channels, the signals are caused to be released from their individual storage devices. The released signals are multiplexed by a multiplexer and then stored in a single storage device. The stored signals are then decompressed and viewed on a real time basis. It would have been obvious to add a multiplexer to multiplex any number of desired signals stored in the storage devices 35-39 in order to combine the signals for further processing.

Regarding claims 7& 10, the limitations of claims 7& 10 are accommodated in the discussions of claim 1 above.

Regarding claim 11, the limitations of claim 11 are accommodated in the discuss claim 1 above, except for the disk drives(see col.13, line 64 to col.14, line 3)

Regarding claim 17, the limitations of claim 17 are accommodated in the discuss claim 7 above.

Regarding claim 18, the limitations of claim 18 are accommodated in the discuss claim 1 above.

7. Claims 2-3,8-9&12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kassatly in view of Windrem et al (US 5,754,730).

Regarding claim 2, Kassatly fails to disclose wherein each of the plurality of recording means adopts a mirror configuration having a plurality of recording apparatuses for recording the same audio and/or video data. Windrem teaches a digital video recording system employing standard hard disk arrays wherein redundancy is provided through a redundant data controller 99 to handle possible failure of one drive in the array (col.2, lines 28-40). Therefore, it would have been obvious to modify Kassatly by realizing Kassatly with the Windrem redundancy system wherein redundancy is provided through a redundant data controller 99 to handle possible failure of one drive in the array

Regarding claim 3, Windrem further discloses wherein each of said plurality of recording means adopts an array configuration in which a plurality of recording apparatuses are connected in parallel. Windrem teaches in Fig I a disk array 12 comprising an array of disk drives wherein the array of disk drives provides sufficient bandwidth to record or play digitized video signals, allowing random access to video data (see Fig.1; disk array 12; col.1, lines 15-32, and col.3, lines 31-52).

Regarding claim 8, Windrem discloses wherein the demultiplexed each one is duplicate on more than one recording medium to perform backup of the demultiplexed each one (see - redundant data controller 99, and col.2, lines 28-40).

Regarding claim 9, the claimed limitations of claim 9 are accommodated in the discussions of claim 3 above.

Regarding claim 12, the limitations of claim 12 are accommodated in the discussions of claim 2 above.

Regarding claim 13, the limitations of claim 13 are accommodated in the discussions of claim 3 above. 3.

8. Claims 4&14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kassatly in view of Nakayama et al (US 4,947,271)..

Regarding claim 4, Kassatly fail to explicitly disclose wherein control data is multiplexed on data stream, the demultiplexing means demultiplexes the control data multiplexed on the data stream, and provision is made for controlling a recording operation of the recording means and reproduction operation of the reproducing means based on the demultiplexed control data. Nakayama teaches in Fig.7 a recording/reproducing means that in the recording process multiplexes recorded data signals to which ID data(control data) had been added. In the reproduction process, these multiplexed data signals are later reproduced, demultiplexed and the ID data extracted (see col.7, line 34 to col.10, line 19). It is desirable to record data signals with their respectable control data (e.g. ID data), and then multiplex the data signals with the control data in order to facilitate the recovery of the data signals during the reproduction process when the data signals are demultiplexed. To make these processes efficient there is inherently a control means that controls , based on the control data, the recording/reproduction of the data signals.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kassatly by realizing Kassatly with a means add control data to data signals, during the recording process, before multiplexing, as taught by Nakayama, in order to facilitate the recovery of the data signal, during the reproduction process when the data signals are reproduced and demultiplexed. Furthermore, it would have been obvious to realize Kassatly with a control means in order to make these controlled recording/reproduction processes efficient.

Regarding claim 14, the limitations of claim 14 are accommodated in the discussions claim 4 above.

9. Claims 5&15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kassatly in view of Nakayama et al (US 4,947,271) and further in view of Morimoto et al (US 5,841,941).

Regarding claims 5& 15, Kassatly and Nakayama fail to disclose wherein at least one of the plurality of recording means and the reproducing means further performs operation in synchronization with a synchronization signal of the data stream. Morimoto teaches in Fig.9 an input encoded data stream which is first input to a recording block formatter 28. A unit information generator 27 retrieves unit information (sync. signal) from the input encoded data stream, so as to output the information to the recording block formatter 28 which formats the data stream so that the number M of successive transport packets are recorded as the number N of successive recording blocks. A reproducing head 9 outputs a reproduced signal from the recording medium 8. A reproducing processor 30 restores the data stream by performing a reproduction processing for the output reproduced signal (see col. 13, lines 23-65). Here Morimoto teaches extracting the sync signal from an input encoded data stream and using the extracted sync signal to convert M successive transport packets to N successive recording packets and recording the converted signal on a recording medium. A reproducing system restores and reproduces the restored data stream based on the sync signal. The sync signal facilitates proper recording and reproducing of the data stream. It would have been obvious to one of ordinary skill

in the art to further modify Kassatly by realizing Kassatly with a means to provide recording/reproducing sync signal in order to facilitate proper recording and reproducing of a data stream.

10. Claims 6&16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kassatly in view of Nakayama et al and Morimoto, and further in view of Windrem.

Regarding claim 6, Kassatly,Nakayama and Morimoto fail to disclose a plurality of-audio and/or video data recording and reproducing apparatuses being connected in parallel, and wherein the input data stream and the output data stream are input and output among the plurality of audio and/or video data recording and reproducing apparatus. Windrem teaches in Fig 1 a disk array 12 comprising an array of disk drives which provide sufficient bandwidth to record or play digitized video signals, allowing random access to video data (see Fig.1; disk array 12; col.1, lines 15-32, and col.3, lines 31-52). It would have been obvious to one of ordinary skill in the art to modify Kassatly by adding the disk array of Windrem. to Kassatly since an array of disk drives provides sufficient bandwidth to record or play digitized video signals, allowing random access to video data.

Regarding claim 16, the claimed limitations of claim 16 are accommodated in the discussions of claim 6 above.

(11) Response to Argument

In re pages 7-10, with reference to claims 2, 8-9 & 12, appellant argues that the examiner has failed to provide a complete motivation for combining Kassatly and Windrem, and that the examiner failed to provide a two-step motivation (namely, the motivation to modify storage means 35-39 or storage device 35-39 to become disk drives; and a motivation to modify the disk drives to become mirrored disk drives) to combine Kassatly and Windrem.

In response, Kassatly clearly discloses disk drives and that it would be desirable that the VAD system be compatible and usable with the conventional storage medium. Kassatly also clearly discloses memory storage 230, 232 and 234 wherein demultiplexed signals of separate channels are independently stored (see col.19, lines 49-54). Here Kassatly discloses the storage means 230, 232 and 234 as memory means which are included in the VAD system. Therefore, inherently the storage means 230, 232 and 234 are disk drives, and there is no need for motivation. The motivation needed is the motivation for modifying Kassatly with Windrem which is clearly provided by the examiner. Furthermore, it is not necessary that the references actually suggest, expressly or in so many words, the changes or improvements that applicant has made. The test for combining references is what the references as a whole would have suggested to one of ordinary skill in the art. In re Sheckler, 168 USPQ 716 (CCPA 1971); In re McLaughlin, 170 USPQ 209 (CCPA 1971); In re Young, 159 USPQ 725 (CCPA 19689).

In re pages 10-11, with respect to claims 3&13, appellant argues that the examiner has merely provided a statement of operability and has failed to provide explicit motivation, except

providing that "the array of disk drives provides sufficient bandwidth to record or play digitized video signals, allowing random access to video data." Appellant further argues that there must be some missing element or function that calls out for the combination or motivation, and that the examiner has failed to identify anything in Kassatly that would be cured by such an addition. Additionally, that the examiner has failed to identify anything in Kassatly, Windrem, or the knowledge generally available to one of ordinary skill in the art would motivate or suggest to one of ordinary skill in the art to combine Kassatly and Windrem.

In response, examiner's response to appellant's argument with respect to claim 2 really is sufficient for the response to the appellant's argument with respect to claim 3. The something missing in Kassatly is the limitation in claim 3 "wherein each of the said plurality of recording means adopts an array configuration in which a plurality of recording apparatuses are connected in parallel", which Windrem teaches, and expected beneficial results are themselves evidence of obviousness. Furthermore, the test for obviousness is not whether the features of the reference may be bodily incorporated into the other to produce the claimed subject matter but simply what the references make obvious to one of ordinary skill in the art. In re Bozek, 163 USPQ 545, (CCPA 1969); In re Richman, 165 USPQ 509, (CCPA 1970); In re Beckum, 169 USPQ 47 (CCPA 1971); In re Sneed, 710 F.2d 1544, 218 USPQ 385.

In re page 15, appellant correctly points out that claim 5 was rejected both with claims 4&14 and with claim 15. Examiner here points out that the valid claim 5 rejection is the

rejection with claim 15. The claim 5 rejection with claims 4 & 14 was a typographical error. That error has been corrected.

In re pages 14-17, with reference to claims 4-5 & 14-15, appellant argues that the examiner has failed to show that Kassatly in view of Nakayama, or that Kassatly in view of Nakayama further in view of Morimoto, teaches or suggests all the claim elements. Appellant cites the language of claim 4 and adds that since Nakayama teaches adding control data to digital signals, during the recording process, before multiplexing, it is in direct contrast with the claim language of claim 4, which recites that the input data stream includes multiplexed control data, the input data is demultiplexed, recorded, reproduced, and multiplexed, i.e., claim 4 sets forth that the control data is multiplexed **before** the recording process.

In response, examiner here reminds the appellant that the recording being referred to by the examiner is the recording process before the multiplexed data now containing control data is transmitted. Nakayama in Fig.7 shows data signals being received by the data processing circuit 132A through 132F. The same figure also shows that ID data 137a through 137f are supplied to the data processing circuit 132A through 132F, respectively. The data signals now added to the respective ID data are then multiplexed and transmitted. Nakayama is applied to show that Kassatly can add control data to Kassatly data signals before the signals are transmitted, as taught by Nakayama.. With Kassatly modified with Nakayama, when Kassatly data signals, which would include control data are received by the demultiplexer (decompressor) 105 (see Fig.43 of Kassatly), these signals are demultiplexed and

independently stored in the memory storage 230 through 234. As needed, these data signals are selectively reproduced and multiplexed by the multiplexer 245, and then stored (recorded) in storage 243. During the reproduction and recording processes, the control signals, added to the data signals during the original recording process, facilitate this reproduction and recording processes. After the selected data signals are multiplexed by the multiplexer 245, the signals are then stored in storage 243. It, therefore, would have been obvious that with Kassatly modified with Nakayama, the subject matter of claims 4&14 would be obvious.

With reference to claims 5&15, Kassatly and Nakayama fail to disclose performing operation in synchronization with synchronizing signal of the data stream. Morimoto teaches such synchronization process. Therefore, with Kassatly now combined with Nakayama and Morimoto, it would have been obvious that the subject matter of claims 5&15 would be obvious.

In re pages 19-22, appellant argues, with reference to claims 6&16, that the examiner has failed to provide a valid motivation to combine, and has failed to show that the combination teaches or suggests all the claim elements.

In response, Kassatly, modified with Nakayama, discloses an audio and/or video data recording and reproducing apparatus comprising a receiving means, a demultiplexing means a plurality of recording mean, a reproducing means, a multiplexing means, a recording and reproducing control means, wherein the input data stream includes multiplexed control data and wherein the demultiplexing means further demultiplexes the control data from the received

input means and Windrem teaches a plurality of audio and/or video data recording and reproducing apparatuses (means) connected in parallel, and the data stream is input and output among these plurality of audio and/or video data recording and reproducing apparatuses. Examiner interprets Fig.1, including the disk array 12 (see Fig.1 of Windrem) comprising disk drives 17, which, through the disk controllers 13, can record and reproduce (playback) audio and/or video data, and which provides recording/reproducing redundancy (parallel recording/reproducing) as reading on the claimed "... plurality of audio and/or video data recording and reproducing apparatuses being connected in parallel.." of claim 6. It is, therefore, quite clear that the examiner has shown that the combination of Kassatly, Nakayama and Windrem clearly discloses these claimed limitations. Claim 6 simply cites the limitation "... further comprising: a plurality of audio and/or video data recording and reproducing apparatuses being connected in parallel, wherein said input data stream and said output data stream are input and output among said plurality of audio and/or video data recording and reproducing apparatuses.", which, as shown above Windrem teaches. It is pertinent to point out that claim 6 fails to recite the limitations comprising ".. a plurality of devices, **each device having** a receiving means, a demultiplexing means, a plurality of recording means, a reproducing means, a multiplexing means, and a recording and reproducing control means... ", as argued by the appellant. It is also pertinent to point out that the examiner deals with the limitations as they are cited in the claims and **not** what is disclosed in the specification or the drawings.

Claim 6 depends on claim 5, Therefore, the claimed limitations of claim 5 (i.e., "... wherein: at least one of said plurality of recording means further performs said recording operation in synchronization with a synchronization signal of the received input data stream;" are part of the total limitations of claim 6. And, claim 5 limitations are taught by Morimoto, as discussed in claim 5 rejection. Therefore, it is clear that the combination of Kassatly, Nakayama, Morimoto and Windrem makes obvious the claimed subject matter of claim 6.

Furthermore, the examiner still maintains the motivation given for further modifying Kassatly with Windrem, which is that adding the disk array of Windrem to Kassatly provides a desirable advantage because an array of disk drives provides sufficient bandwidth to record or play digitized video signals, allowing random access to video data, which examiner believes to be a very valid motivation . Again, it is pertinent to point out that the test for obviousness is not whether the features of the reference may be bodily incorporated into the other to produce the claimed subject matter but simply what the references make obvious to one of ordinary skill in the art. In re Bozek, 163 USPQ 545, (CCPA 1969); In re Richman, 165 USPQ 509, (CCPA 1970); In re Beckum, 169 USPQ 47 (CCPA 1971); In re Sneed, 710 F.2d 1544, 218 USPQ 385. And, that it is not necessary that the references actually suggest, expressly or in so many words, the changes or improvements that applicant has made. The test for combining references is what the references as a whole would have suggested to one of ordinary skill in the art. In re Sheckler, 168 USPQ 716 (CCPA 1971); In re McLaughlin, 170 USPQ 209 (CCPA 1971); In re Young, 159 USPQ 725 (CCPA 19689).

Claim 16 response is similar to the examiner's response to appellant's arguments with respect to claim 6.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

COO
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